

California Regional Water Quality Control Board  
North Coast Region  
5550 Skylane Boulevard, Suite A  
Santa Rosa, CA 95403

**Fact Sheet**

Renewal of Waste Discharge Requirements  
NPDES Permit No. CA0005622

**PACIFIC GAS & ELECTRIC COMPANY  
HUMBOLDT BAY POWER PLANT**

Humboldt County

The Pacific Gas & Electric Company (PG&E) has applied for renewal of Waste Discharge Requirements to discharge once-through cooling water and process water under the National Pollutant Discharge Elimination System (NPDES) from the Humboldt Bay Power Plant (HBPP). The Regional Water Board will consider the adoption of new Waste Discharge Requirements at its April 26, 2001 Regional Water Board meeting at the Eureka City Council Chambers, 531 K Street, Eureka, California.

The HBPP consists of three power generating units located on the east shore of Humboldt Bay at King Salmon in the SW ¼ of Section 8, T4N, R1W, HB&M. Units No. 1 and No. 2, constructed in 1956 and 1958, respectively, are driven by fossil fuel (oil and gas) and have a gross generating capacity of 53 megawatts (MW) each. Unit No. 3, constructed in 1963, was nuclear-fueled and had a gross generating capacity of 65 MW. Unit No. 3 has been shut down permanently. However, some wastewater discharges from Unit No. 3 still occur. Additionally, two diesel-powered turbine Mobile Electric Power Plants (MEPPs), with a capacity of 15 MW each are run intermittently.

The facility uses about 76 million gallons per day (mgd) of bay water for once-through cooling purposes in the active power generation units. The cooling water is pumped from Humboldt Bay from Fisherman's Channel and returned to the Bay via a discharge canal. Other discharges to the canal covered by the permit include: discharge from the oil/water separator (40,000 gallons per day (GPD)); boiler metal cleaning waste (160,000 gallons every 10 to 15 years); boiler metal fireside wash (50,000 gallons every 3 to 5 years); liquid low level radioactive waste (7,000 GPD); non-contact cooling water (2.3 MGD); Unit 3 caisson groundwater (20 GPD); boiler blowdown, evaporator blowdown, and scale cracking (5,000 GPD); intake screen wash (46,000 GPD); storm water runoff (variable); and discharges from remote storm drains (variable).

Effluent limitations contained in the permit are based upon water quality objectives and receiving water limitations contained in the Water Quality Control Plan for the North Coast Region (Basin Plan) and on effluent limitations set by the Code of Federal Regulations (CFR), Title 40, Section 423. 40 CFR Section 423 applies to discharges resulting from the generation of electricity for distribution and sale which results from a process utilizing fossil-type fuel with a thermal cycle employing the steam water system as the thermodynamic medium. Staff believes that there is no reasonable potential that biochemical oxygen demand and coliform will cause or contribute to a violation of water quality standards.

The draft NPDES Permit is similar to the existing Order except for the monitoring requirements. Increased monitoring is necessary to determine what priority pollutants, if any, may require water quality-based effluent limitations and whether or not the discharge is toxic to aquatic organisms in the receiving waters. These monitoring requirements have been added pursuant to the California Toxics Rule (CTR) as set forth in the State's newly adopted *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*.

Discharge toxicity is measured using standard acute and chronic whole-effluent toxicity tests. Water-dwelling organisms are subjected to solutions of differing effluent concentrations for an extended time period to determine if the effluent has an adverse affect on the organisms. The Acute toxicity is reported as a percent survival, or in TUa units. Chronic toxicity is reported as a TUC value. 1 TUa corresponds to 100 percent survival, in other words, no acute toxicity. 1 TUC corresponds to no adverse affects on the organisms, in other words, no chronic toxicity. Greater TUa and TUC numbers correspond to greater toxicity. There is a rapid initial dilution for the outfall of 5.06 during single unit operation and 6.06 during dual unit operation. TUC limits, taking into account this dilution credit, are set at 6.06 TUC for single unit operation and 7.06 TUC for dual unit operation.

Copies of the draft permit may be obtained by contacting the California Regional Water Quality Control Board, North Coast Region, at the address above.

For any additional information or questions in this matter, please contact:

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